NBER Workshop on Network and Development Economics

Application Materials

Cover Letter

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NBER Workshop on Network and Development Economics
Selection Committee
Harvard University / NBER

Dear Selection Committee,

I am writing to apply for the NBER Workshop on Network and Development Economics, to be held in Cambridge, Massachusetts on December 5, 2026. I am a Ph.D. student in Economics at the University of Oregon, and I am in my third year of the program, with expected completion in 2028. My research sits at the intersection of development economics, trade, network structures, and structural modeling. I am particularly interested in how market frictions, infrastructure constraints, and network-based transmission mechanisms shape economic outcomes in low-income settings.

My current work focuses on two complementary research agendas. First, I study how trade frictions, perishability, and corridor infrastructure shape agricultural market outcomes in developing countries. I plan to present a working paper titled *Gravity Estimation and Corridor Trade Costs in a Structural Gravity Framework*, which is based on the empirical gravity results and key tables developed in the project. This paper is structured as an extended abstract and working paper for workshop presentation, and it presents the core regression findings, corridor-survival elasticity estimates, and trade-cost interpretation. Second, I study how monetary and financial transmission operates in dual-economy settings where formal and informal sectors interact through network-based intermediaries and carrier systems. This work is reflected in additional projects on monetary transmission in developing countries and on dual-economy Ramsey models of carrier-mediated informal credit.

I am especially interested in attending the workshop because it brings together early-stage researchers and senior scholars working at the frontier of network and development economics. I would value the opportunity to present my work, receive targeted feedback, and learn from discussions of related projects. I believe this workshop would be highly valuable for refining the design, framing, and empirical strategy of my current research agenda.

My faculty recommender is Professor Alfredo Burlando, who can be reached at burlando@uoregon.edu. I have included my CV and a brief statement of interest in the application packet.

I would be grateful for your consideration. Thank you for your time and attention.

Sincerely,
Eugene Mensah

Curriculum Vitae

Eugene Mensah

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Education

Ph.D. in Economics, University of Oregon, Eugene, OR
Expected completion: 2028
Primary fields: Development Economics, Network Economics, Trade, Applied Microeconomics, Structural Modeling

M.S. in Economics & Computer Science, Drexel University, Philadelphia, PA, 2020

M.S. in Actuarial Science, University of Lausanne, Lausanne, Switzerland, 2014

B.Sc. in Mathematics, University of Ghana, Legon, Ghana, 2012

Research Interests

Development economics, network and market structure, trade and supply chains, structural macroeconomics, informal finance, digital financial access, agricultural value chains, and the economics of infrastructure and transport frictions.

Working Papers

1. **Gravity Estimation and Corridor Trade Costs in a Structural Gravity Framework.**
2. **Monetary Transmission in Developing Countries: A Network-Based Approach.**
3. **Monetary Transmission in a Dual Economy: Informal Credit and Carrier Networks.**

Current Research Presentation

Paper: "Gravity Estimation and Corridor Trade Costs in a Structural Gravity Framework."

Coursework

Ph.D. Economics, University of Oregon

- Sem Core Microeconomics
- Sem Core Macroeconomics
- Sem Core Econometrics
- Sem Health and Crime
- Sem Empirical Macroeconomics
- Sem Macroeconomic Field
- Sem International Economics II

- Sem Experimental Economics
- Sem Microeconometrics
- Sem Culture and Evolution
- Sem Development Economics
- Sem Computational Economics
- Research in Supply Chain Economics
- Research in Network Economics
- Research in Network Economy

References

Alfredo Burlando
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Statement of Interest

Statement of Interest and Research Motivation

I am applying for the NBER Workshop on Network and Development Economics because my research is shaped by the way economic interactions are mediated through networks, infrastructure, and institutional frictions. In the settings that motivate my work, market outcomes are not determined only by prices or aggregate fundamentals; they are also shaped by trade corridors, market access, informal networks, and the transmission of shocks through limited-capacity channels. My research agenda is motivated by this basic observation and by the opportunity to understand how these mechanisms affect welfare, productivity, and policy in low-income settings.

My primary research agenda studies how network and supply-chain structures alter economic performance. In the working paper I plan to present, *Gravity Estimation and Corridor Trade Costs in a Structural Gravity Framework*, I analyze how corridor survival, trade frictions, and infrastructure quality shape agricultural trade flows in the Burkina Faso–Ghana tomato corridor. The project connects a structural model to observable trade outcomes, including survival-adjusted trade values, corridor-specific road quality, and standard border trade costs. The central question is not simply whether trade occurs, but how transport frictions and the survival-adjusted trade margin shape observed flows and welfare-relevant market integration.

I am also working on a second line of research on monetary transmission in developing economies. In my paper, *Monetary Transmission in Developing Countries: A Network-Based Approach*, I study how monetary policy propagates through networked sectors and intermediaries in settings characterized by dual economies and incomplete financial markets. I am also developing a project on dual-economy Ramsey models of carrier-mediated informal credit, where the interaction between formal and informal sectors creates nontrivial transmission channels for policy and credit conditions.

Attending the workshop would be productive for several reasons. First, it would provide a forum to present the current state of my work and receive targeted feedback from scholars working on networks, market structure, development, and macroeconomics. Second, it would allow me to learn from the research of early-stage and senior participants who are tackling related problems in empirical and structural settings. Third, it would sharpen my ability to connect the structural, modeling, and policy dimensions of my work across fields.

I am particularly interested in the workshop's emphasis on early-stage work and on bringing together researchers with complementary methods. I would value the opportunity to engage with scholars whose work speaks directly to network frictions, development, and structural identification. I believe the workshop would help me improve the theoretical framing, empirical strategy, and presentation of my current projects, while also connecting me with a research community that is central to my long-term agenda.

Extended Abstract

Gravity Estimation and Corridor Trade Costs in a Structural Gravity Framework

Trade in a Perishable Corridor: Survival, Seasonal Supply, and Road Quality in the Burkina Faso–Ghana Tomato Network

Burkina Faso → Ghana tomato corridor, 2010–2022

Abstract: This paper studies trade in a perishable-goods corridor where market integration is shaped by both conventional trade costs and the quality of the transport network. During late December to May, Ghana imports most of its tomatoes from Burkina Faso. The trade is driven by wholesale traders that cross the border from Ghana to Burkina Faso to purchase the commodity.Amikuzuno, Setsoafia, and Seini 2015 Traders bear the risk of the operation with tomatoes being highly perishable and the perilous journey that covers the length of Ghana with the final destination being the capital market of Accra. The existence of information asymmetry, personal and logistical risk shows up in the prices faced by consumers in the market. Robinson and Kolavalli 2010

Amikuzuno, Setsoafia, and Seini 2015 find that Ghanaian consumer markets respond weakly to deviations from long-run equilibrium with Burkinabè producer markets, and attribute this to trader market power creating asymmetric transmission. We model the mechanism explicitly, decomposing the delivered price into transport cost, a mortality premium, and spoilage loss. Porteous 2019 finds welfare gains concentrated on a small share of overland corridors in their dynamic model of storage and trade in Sub-Saharan Africa. We study one such corridor for a good that cannot be stored, which closes the intertemporal margin their model relies on and lets us decompose trade costs into transport, mortality risk, and spoilage, which aggregate models cannot separate. Before estimating the structural model, we establish that corridor conditions move trade in the direction the model requires: if road quality and season affect the quantity that survives the journey, they should show up in observed flows.

We estimate an augmented gravity model for the Burkina Faso–Ghana tomato corridor using administrative trade records, national accounts, and corridor-level infrastructure and trade-cost data. The empirical design is motivated by a structural perishable-corridor gravity framework in which corridor quality and seasonal conditions affect the effective quantity of goods that reaches the destination market. The annual panel shows a strong demand-side market-size effect, a large standard trade-cost channel, and a statistically significant positive effect of road quality on corridor trade. In the monthly panel, the lean-season indicator is strongly negative: trade falls to roughly 15% of peak-season levels. Taken together, preliminary evidence suggests that standard trade costs, seasonal supply timing, and infrastructure quality jointly shape corridor outcomes in a setting where perishability and storage constraints are binding.

Data and empirical sources. The paper uses administrative and survey data from the Burkina Faso–Ghana tomato corridor assembled from the Ghana National Tomato Traders and Transporters Association (GNTTTA) and the Ghana Living Standards Survey (GLSS). The core panel is the GNTTTA trade file, which contains monthly corridor-level records on truck movements, trade volumes, and trade values for the 2010–2022 tomato season. These records are combined with corridor-specific spoilage estimates generated from the temperature and travel-time model with road-quality measures, fuel-cost series, and rainfall indices used to construct corridor-level frictions

and instruments. Household demand and expenditure information are taken from the GLSS, including household tomato prices, quantities, and food expenditure used to estimate demand elasticities and seasonal demand shifters. National income and macro controls come from Burkina Faso and Ghana national accounts, while trade-cost controls are drawn from World Bank Doing Business measures of trading across borders and corridor-level infrastructure indicators. Together, these data allow the project to connect observed trade flows to corridor survival, road quality, seasonal scarcity, and standard trade costs in a unified empirical framework.

Table 1: Key Regression Results: Corridor Gravity and Trade-Cost Channels

Regressor	Coefficient	Interpretation
ln $E_{GH,t}$ (Ghana agriculture GDP)	0.398^{**}	Strong demand-side market size effect
ln $Y_{BF,t}$ (Burkina Faso GDP)	-0.195	Supply-side growth less dominant in this corridor
ln t^{std} (standard trade cost)	1.005^{*}	Large standard cost channel
GHA road quality (% good)	0.011^{**}	Better road quality raises corridor trade
Peak season share	65.75	Seasonal trade concentration

Notes: Results are from annual panel regressions using corridor-level trade data for BFA $\rightarrow$ GHA, 2010–2022. Standard errors are HC1; $^{**}p < 0.05$, $^{*}p < 0.10$.

Table 2: Headline Monthly Panel Result

Regressor	Coefficient	Interpretation
Lean season indicator	-1.891^{***}	Trade value falls to roughly 15% of peak-season levels

Monthly panel estimate with year fixed effects.
$e^{-1.891} \approx 0.15$, implying an 85% lean-season reduction.

Main takeaway. Preliminary evidence supports the core reduced-form claim of the project: trade in the corridor is strongly shaped by demand conditions, standard trade costs, road quality, and seasonal supply timing. The annual gravity estimates show a large demand-side market-size effect and a materially important standard trade-cost channel, while the road-quality coefficient is positive and statistically significant. The monthly panel delivers the clearest result: lean-season conditions are associated with an 85% decline in trade relative to peak-season levels, highlighting the importance of perishability and the zero-storage bottleneck in this setting.

References

Amikuzuno, J., E. Setsoafia, and A. Y. Seini. 2015. "Regional Integration in West Africa: Costs, Tradeoffs and Integration between Ghanaian and Burkinabe Fresh Tomato Markets." *UDS International Journal of Development* 1 (1): 42–58. ISSN: 2026-5336. https://doi.org/10.47740/8.UDSIJD6i.

Porteous, Obie. 2019. "High Trade Costs and Their Consequences: An Estimated Dynamic Model of African Agricultural Storage and Trade." *American Economic Journal: Applied Economics* 11 (4): 327–366. ISSN: 1945-7782. JSTOR: 26794330.

Robinson, Elizabeth J. Z., and Shashidhara Kolavalli. 2010. "The Case of Tomato in Ghana: Marketing," HDL: 10568/154975.